-continued

Image portion covered with said ink =

$$\frac{P}{(W\bar{x})*(S\bar{y})*8;}$$

whereby a set of variables of the algorithm are defined as follows:

PI=a memory address of a first image data byte;

PY=a current scan line address;

PX=a current byte address;

S=a total number of scans in the digitized image;

W=a width of scan line in bytes;

P=a total number of pixels turned on;

X=a first random variable with a sample value x and a mean value $\bar{x}$, approximately uniformly distributed between:

$$\frac{1}{2}\bar{x} \text{ and } \frac{3}{2}\bar{x}; \textit{ and}$$

Y=a second random variable with a sample value y and a mean value $\bar{y}$, approximately uniformly distributed between:

$$\frac{1}{2}\bar{y} \text{ and } \frac{3}{2}\bar{y}.$$

19. A method for estimating pixel coverage in a digitized image comprising:

sampling pixels in a byte stream according to a varied spacing mode so as to avoid image pattern errors; and

summing said pixels in said sampled bytes, whereby said processor provides an estimate of a total number of pixels turned on in said digitized image.

20. The method of claim **19**, further comprising using a look-up table to select each address of said bytes sampled in said byte stream.

21. The method of claim **20**, further comprising:

using a look-up table to sample each digitized image; and

entering the look-up table at a new starting address to begin each reuse of the look-up table.

22. The method of claim **19**, comprising using a random number generator to select each address of said bytes sampled in said byte stream.

23. The method of claim **19**, comprising using a look-up table to select each pixel address for sampling pixels within said byte.

24. The method of claim **19**, comprising providing the estimated total number of pixels turned on to a printer service status indicator for indicating the status of a set of printer components.

25. The method of claim **19**, comprising providing a set of ink metering instructions to an ink metering controller for dispensing ink to a printer, with the ink dispensing instructions being developed according to the estimate of the total number of pixels turned on.

26. The method of claim **19**, wherein the estimation of the total number of pixels turned on performed according to the steps:

```
PY = PI
P = 0
Loop over scan lines
  PY = PY + W*y
  IF PY > (PI + W*S), then exit scan lines loop
  PX = PY
  Loop over a set of image data bytes
    PX = PX + x
    If PX > (PY + W) then exit the image data byte loop
    P = P + (number of pixels turned on in byte address
    by PX)
  End loop over image data bytes
End loop over scan lines
Image portion covered with said ink =
```

$$\frac{P}{(W\bar{x})*(S\bar{y})*8;}$$

whereby a set of variables of the steps are defined as follows:

PI=a memory address of a first image data byte;

PY=a current scan line address;

PX=a current byte address;

S=a total number of scans in the digitized image;

WW=a width of scan line in bytes;

P=a total number of pixels turned on;

X=a first random variable with a sample value x and a mean value $\bar{x}$, approximately uniformly distributed between:

$$\frac{1}{2}\bar{x} \text{ and } \frac{3}{2}\bar{x}; \textit{ and}$$

Y=a second random variable with a sample value y and a mean value $\bar{y}$, approximately uniformly distributed between:

$$\frac{1}{2}\bar{y} \text{ and } \frac{3}{2}\bar{y}.$$

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